extinct wingless birds from *Dinornis*. So, likewise, with parts of the skeleton which are connected with the sternum.

The coracoid in *Ocydromus*, *Notornis*, *Aptornis*, and *Apteryx*[1] unites with the scapula at angles progressively detracting from the power of the muscles inserted into the humerus for the raising and protracting the wing. The coracoids, besides change of position, also lose in relative size, especially in their proximal or sternal breadth; consequently they require shorter grooves for articulation with the sternum; and as the loss proceeds from the mesial angle outwards a greater space intervenes between the sternal ends of the coracoids. Tracing the flightless birds from the Kivis to the Wood-hens, this interspace progressively decreases; tracing the volant species onward or upward, we find in some of the best flyers that the fore border of the sternum ceases to co-expand with sternal expansions of the coracoids, the articular grooves decussate, and the mid part of the fore border of the breast-bone shows a double articular groove.

The clavicular arch, or "merry thought," manifests a concomitant loss of strength, becomes filamentary, resumes its typical character of parial "collar-bones," and finally disappears.

But these gradations, with concomitant fall to keelless breast-bones, are related physiologically, narrowly or specially, to corresponding proportions of parts of the osseous and muscular systems, and, to similar degrees, with final loss of volant power. The food, the oviposition, the nidification, and other habits of flightless terrestrial birds may show no corresponding samenesses. Such vital differences, with the several corresponding totalities of avian organization, disperse or rank the so-called "Ratite" birds, in a natural and philosophical system of Ornithology, into different reduced, perhaps extinct, groups or orders of the class: and the well-marked modifications of form and proportion in keelless sternums, exemplified in plate 57 of the third volume of our 'Transactions,' may help to point the way towards the group to which their several possessors may be shown by future found remains to be naturally affined.

2. On a Collection of Birds from the Isle of Ceram made by Dr. Platen in November and December 1881. By Dr. Wilhelm Blasius, C.M.Z.S.

[Received November 13, 1882.]

Dr. Platen, the traveller and naturalist, who has of late years become favourably known to the scientific world by his collections in Malacca, Borneo, and other places of the Indo-Malayan region, made in the month of November of last year a stay of nearly four weeks at Lokki, on the island of Ceram, going there from Amboina. He collected on this occasion forty-nine skins of birds, which have been transmitted to my friend Mr. A. Nehrkorn of Riddagshausen, and by him kindly given to me for identification and classification.

[1] Trans. Zool. Soc. vol. ii. (1838) p. 257, p. 55. fig. 2.

The determination and the scientific analysis of the birds which we receive from the Moluccas is greatly facilitated for us by the excellent and very comprehensive work of Tommaso Salvadori, "Ornitologia della Papuasia e delle Molucche," Parte I. Accipitres, Psittaci, Picariæ (in the 'Memorie della Reale Accademia delle Scienze di Torino,' serie ii. tomo xxxiii. : Torino, Ermanno Loescher, 1881, 4to), and Parte II. Passeres (Torino, Stamperia Reale: G. B. Paravia e Co., 1881, 4to). This work, as well as the numerous publications of the same author in the 'Annali del Museo Civico di Genova,' and especially also the 'Prodromus Ornithologiæ Papuasiæ et Moluccarum,' published in the different series of those Annals, have been of the utmost use to me in the present treatise.

The collection of Dr. Platen is not very large; but among the forty-nine birds, which comprise twenty-one different species, we find nevertheless one species which is absolutely new to the fauna of Ceram, and several others which give occasion for further observations and the discussion of other systematic questions. The remarks of the collector (given with inverted commas) on the colour of the iris and the naked parts of the skins, the total length in fresh condition (L.), and the distance between the ends of the wings and tail (D.), &c., as well as the precise information as to the locality and the time of collecting, will be found most valuable, as they have likewise been of great advantage to my former notes on Dr. Platen's collections from Borneo and other localities.

I shall now give the list of the birds which Dr. Platen has lately sent; and (with the exception of the four last species, which have not yet been treated by Salvadori) I shall follow the order of the above-named work of Salvadori, adding the number of the page for each separate species.

1. Cuncuma leucogaster (Gm.), Salvad. i. p. 7.

"*Male.* Iris grey-brown. L. 72 cm., D. 3·5 cm. Bill horny grey-blue; cere and feet light grey-blue. Lokki, Ceram, 28 November 1881."

The specimen is young, and has nearly the coloration of the feathers which Salvadori describes as belonging to the young bird; only the tips of the brown feathers of the head, neck, and back are in part of a clear white; the larger upper tail-coverts are whitish near the base, and near the tip light brown-mottled; the smaller upper tail-coverts are brown, tipped with whitish spots; the light tips of the feathers of the underparts, which are generally of a uniform brown, are not pure white, but light ferruginous. The primaries are at the ends nearly black for about two thirds of the length, at least dark brown without any trace of grey. Salvadori has mentioned a similarly different coloration in describing some young specimens from Halmahera. It is particularly striking that the tail of our individual is considerably longer than the measure given by Salvadori, as also than those of two old birds of the Brunswick Museum, one of which we have received with the general indication 'Moluccas' from Mr. G. A. Frank, in Amsterdam, while we owe the

other, coming from Gorontalo on the island of Celebes, to the kindness of Mr. G. Schneider, of Basle.

The following table will show the difference :—

	Long. tot. cm.	Al. cm.	Caud. cm.	Rostri culm. cm.	Tars. cm.
Salvadori, minimum	70·0	54·5	22·5	5·2	9·0
„ maximum	80·0	57·5	25·5	5·5	9·5
Moluccas, ad.	68·0	56·5	23·5	5·2	9·0
Celebes, ad.	61·5	55·5	24·0	5·0	9·0
Ceram, juv. ♂	72·5	55·5	31·5	4·7	9·3

(In the Catalogue Birds Brit. Mus. vol. i., Sharpe also states the length of the tail as much less—for the male ad. 9·5 inches=24·2 cm., and for the female ad. 11 inches=28·1 cm.)

At first I believed, on account of these widely differing proportions, and particularly on account of the much longer tail, that I had before me another species of the group of *Haliaetus*. But this supposition is contradicted by the fact that, till now, no other species has been found in the region of the Moluccas, and that this very same species has been found by Hoedt on the island of Ceram (Schlegel, Mus. Pays-Bas), and observed by Rosenberg (Malayischer Arch. p. 322) near the mouth of the Bobot river.

Besides, the feathering of the leg (only in front on the upper third of the tarsus), the formation of the scales (in front a row of very broad plates descending nearly to the root of the toes), and the formation of the claws are exactly the same as in the old specimens mentioned above. Of the other species of *Haliaetus* very well represented in the Brunswick Museum, the longer-tailed *H. leucoryphus* (Pall.) approaches the nearest in size and formation of bill and legs. But our specimen from Ceram differs from it, apart from the different colouring, in the wider and deeper descending scales of the tarsus, and in the smaller development of the hind claw. I propose therefore to classify the bird for the present as *C. leucogaster*, and suppose that this species has when young a considerably longer tail than when old, and that the average measurements of Salvadori have been taken exclusively from old individuals. With this opinion coincide more or less the opinions of Mr. E. F. von Homeyer of Stolp, of Dr. Alph. Dubois of Brussels, of Dr. Rud. Blasius of Brunswick, and of Mr. Henry Seebohm of London, the first three of whom have at my request seen and compared the bird with *H. leucoryphus*, and distinctly stated the difference. I also owe to the just named gentlemen (principally to Mr. H. Seebohm) on this occasion some precise communications about the variability of the length of tail in the large birds of prey in general, and about the often surprisingly greater dimensions of the plumage of the young individuals of Accipitres in comparison with the old ones, which have essentially confirmed me in classifying the present specimen as *H. leucogaster*.

The specimen is in the Brunswick Museum.

2. Tinnunculus moluccensis, Schleg., Salvad. i. p. 37.

"*Female.* Iris brown. L. 38 cm., D. 3 cm. Bill bluish, tip black; feet, cere, and skin round eyes light yellow. Lokki, Ceram 26 November 1881."

A transition stage. The primaries are nearly all of a strong reddish to light brown colouring, which Salvadori gives as proof of youth; while the older specimens before me of the Brunswick Museum, from Celebes and Halmahera, possess quills of a darker brown or black-brown. The tail-feathers also, with the exception of the already changed middle pair, have a reddish-grey colouring, instead of the later shade of ashy grey.

The specimen is in the Brunswick Museum.

3. Ninox squamipila (Bp.), Salvad. i. p. 89.

Two specimens (male and female). For both, the label says:— "Iris dark brown; bill bluish, tip white; feet and cere light yellow. Lokki, Ceram."

1. "♂. L. 30 cm., D. 2 cm. 30 November 1881."
2. "♀. L. 27 cm., D. 2 cm. 26 November 1881."

Both these specimens coincide almost exactly with the diagnosis given by Salvadori (*l. c.*) and by Sharpe in the Cat. Birds Brit. Mus. ii. p. 184, pl. xii. fig. 2. As in the descriptions of Sharpe and Salvadori there is no reference whatever to a difference of the sexes of this species, and as in the two Zoological Museums most important for this question, those of Leyden and London, both sexes are not represented together with any certainty (in the British Museum only one ad. stuffed without mention of sex and one male ad., and in the Leyden Museum, with the exception of one specimen of '*Athene hantu*, Wallace,' from Buru, and of one specimen from Mysol, doubted by Salvadori, five specimens, among which two are without mention of sex and three females), I consider it interesting to point out a striking difference between the two specimens mentioned above, which is possibly sexual. The dark-brown cross bands on the white underside are much narrower in the female than in the male: those of the female are about 1 to 1·5 mm., those of male 2·5 mm. in width. Exactly the same appearance shows itself on the dark bands of the partially white upper wing-coverts (2 to 3 mm., 4 mm.) and on the dark-brown bands of the under wing-coverts (1 to 2 mm., 3 to 3·5 mm.). Moreover the colouring of the back of the female is a little lighter red-brown than that of the male, and the light cross bands on the back of the female are more conspicuous than in the male. The claws, too, of the female are lighter than those of the male, and behind the nostrils the cere of the male has a much greater width than that of the female (1·0, 0·6 cm.). The difference of size is not inconsiderable.

	Long. tot. cm.	Al. cm.	Caud. cm.	Rostr. cm.	Tars. cm.
♂	28	22·5	13·7	2·7	3·5
♀ . . .	24	21·7	13·1	2·5	3·3

That the female is not much younger than the male, but rather of about the same age, I believe I am justified in concluding from the wear of the feathers &c. Very striking in both specimens, as well as in the closely related species *N. hantu*, Wall., combined with the other by Schlegel, is the characteristic bristle-like covering of the legs and toes.

Both specimens are in the Brunswick Museum.

4. Cacatua moluccensis (Gm.), Salvad. i. p. 101.

Four specimens (two males and two females). For all the label repeats :—"Iris dark brown; bill and feet grey-black ; skin round eyes milk-white. Lokki, Ceram."

1. "♂. L. 46 cm., D. 7·5 cm. 29 November 1881."
2. "♂. L. 48 cm., D. 8 cm. 13 December 1881."
3. "♀. L. 48 cm., D. 8 cm. 21 November 1881."
4. "♀. L. 46 cm., D. 8 cm. 1 December 1881."

Both the males have the red of the crest-feathers of a more vivid colour, and the white of the feathers of belly and back a little more tinged with rose-colour than in the females ; besides this there is no difference of sex to be remarked.

No. 2 is in the Brunswick Museum ; No. 3 in the collection of Mr. Nehrkorn.

5. Eclectus cardinalis (Bodd.), Salvad. i. p. 210.

Two specimens (male and female). For both, the label reports :— "Iris golden yellow. L. 34 cm., D. 4 cm. Cere and feet grey-black. Lokki, Ceram."

1. "♂. 17 November 1881." Upper mandible red, under mandible black. *Ground-colour of feathers green.*

2. "♀. 19 November 1881 ; bill black." *Ground-colour of feathers red.*

The marking of the sexes is consequently absolutely in conformity with the at present generally accepted opinion that the red individuals of this group of Parrots are the females, and the green ones (*Eclectus intermedius*, Bp.) the males of the same species.

The two specimens from Ceram are absolutely identical with numerous other individuals from Amboina collected by Dr. Platen, and just now before me (*cf.* Blasius and Nehrkorn, "Dr. Platen's ornithologische Sammlungen aus Amboina," Verh. zool.-bot. Ges. Wien, xxxii. 1882, p. 415, sp. 6).

Both specimens are in the Brunswick Museum.

6. Eos rubra (Gm.), Salvad. i. p. 251.

"*Male.* Iris brown. L. 30 cm., D. 6 cm. Bill orange-red ; cere grey ; naked skin round eyes, and feet black. Lokki, Ceram, 16 November 1881."

In the principal points perfectly in conformity with the diagnosis of Salvadori, and at the same time with six other specimens collected by Dr. Platen in the isle of Amboina (*cf.* Blasius and Nehrkorn

l. c. p. 416, sp. 8). The variations of colour which frequently occur in this species are inconspicuous here.

7. CORIPHILUS PLACENS (Temm.), Salvad. i. p. 303.

Seven specimens (three males and four females). For all, the label repeats:—"Native name, Pörkietschi Klapa. Iris orange; bill, cere, feet red. Lokki, Ceram."

1. "♂. L. 18 cm., D. 5·0 cm. 20 November 1881."
2. "♂. L. 18 cm., D. 4·5 cm. 23 November 1881."
3. "♂. L. 18 cm., D. 4·5 cm. 24 November 1881."
4. "♀. L. 18 cm., D. 4·5 cm. 18 November 1881."
5. "♀. L. 18 cm., D. 4·5 cm. 23 November 1881."
6. "♀. L. 18 cm., D. 4·5 cm. 23 November 1881."
7. "♀. L. 18 cm., D. 4·5 cm. 27 November 1881."

The comprehensive remarks of Salvadori upon the specific characters and differences of sex, and the variety found in Ceram, as well as about the near relation of this species to *Coriphilus fringillaceus*, &c. are confirmed by Dr. Platen's specimens.

The native name given by Dr. Platen has not yet been noted by Salvadori.

Nos. 1 and 7 are in the Brunswick Museum, Nos. 3 and 5 in the collection of Mr. Nehrkorn.

8. RHYTIDOCEROS PLICATUS (Penn.) [=*ruficollis* (Vieill.)], Salvad. i. p. 392.

Nine specimens (five males and four females). For all, the label repeats:—"Skin round eyes light blue, at the throat bluish white; feet black. Lokki, Ceram."

1. "♂.	Iris orange.	L. 88, D. 18 cm.	17 Nov. 1881."	(7 ridges on the bill-crest.)
2. "♂.	,,	L. 88, D. 18·5 cm.	21 Nov. 1881."	(7 ridges.)
3. "♂.	,,	L. 90, D. 19 cm.	27 Nov. 1881."	(6 ridges.)
4. "♂.	,,	L. 88, D. 19 cm.	29 Nov. 1881."	(6 ridges and 1 addit.)
5. "♂.	,,	L. 91, D. 21 cm.	2 Dec. 1881."	(5 ridges.)
6. "♀.	Iris grey-brown.	L. 82, D. 18 cm.	21 Nov. 1881."	(4 ridges.)
7. "♀.	,,	L. 80, D. 17·5 cm.	30 Nov. 1881."	(6 ridges.)
8. "♀.	,,	L. 83, D. 18 cm.	1 Dec. 1881."	(5 ridges.)
9. "♀.	,,	L. 79, D. 17 cm.	5 Dec. 1881."	(2 large ridges.)

The species stands systematically very near to *Rhytidoceros undulatus* (Shaw) [=*obscurus* (Gm.)], of which species Dr. Platen lately sent 12 specimens from Borneo, labelled with equal care (Blasius and Nehrkorn, 'Contributions to the Knowledge of the Birds of Borneo,' Brunswick, 1881, sp. 27, p. 23; in the Yearly Report of the Society of Natural Science of Brunswick for the year 1880–81, p. 129)[1].

[1] *Rectius*—Blasius und Nehrkorn, 'Beiträge zur Kenntniss der Vogelfauna von Borneo,' Braunschweig, 1881, sp. 27, p. 23; in 'Jahresbericht des Vereins für Naturwissenschaft zu Braunschweig für das Geschäfts-Jahr 1880–81,' p. 129.

The females of *Rh. undulatus* sent from Borneo by Dr. Platen strikingly resemble the females of *Rh. plicatus*. I have already drawn attention to the fact that the ridges on the sides of the base of the bill are very little or even not at all marked in young specimens of *Rh. undulatus*; so that the characteristic features on which Salvadori (i. p. 398) chiefly founds his belief in the possibility of distinguishing the females of the two species may be entirely obliterated. Under these circumstances it appears to me not superfluous to point out some differences in the colouring of the iris and the naked parts, which are founded on Dr. Platen's careful observations.

Rh. undulatus. Female: "iris (like that of the male) orange. Naked skin of the throat—front third light blue, back third dark blue, separated by a black band; while the old male has the back third of the throat-skin light green, the front one yellow, divided by a dark green stripe; and the young male has a uniform lemon-coloured throat-skin, or a lemon-coloured one divided by a yellowish-green stripe."

Rh. plicatus. Female: "iris grey-brown (of the male orange). Naked skin of the throat (like that of the male) bluish white."

The difficulty of the distinction exists only for the female, which is in both species entirely black with the exception of the white tail; while the male of *Rh. plicatus* is easily to be distinguished from *Rh. undulatus* by the completely brown-red neck (the present specimens from Ceram have a dark chestnut-brown colouring towards the back, lighter towards the front, and lightest on the chin). The female of the present species is much smaller than the male, as is already proved by the measurements taken by Dr. Platen while the birds were fresh. To render these differences more obvious, as well as to give the possibility of comparison with some measurements of *Rh. undulatus*, I add the following dimensions:—

	Cauda. cm.	Ala. cm.	Tarsus. cm.	Rostri crista. cm.	Rictus. cm.
1. ♂.	28·5	42·7	5·2	13·0	22·0
2. ♂.	27·5	40·5	5·5	13·0	21·2
3. ♂.	29·5	41·5	5·5	13·3	22·0
4. ♂.	28·0	43·0	5·8	11·5 to 13 cm.	22·2
5. ♂.	27·5	41·5	5·5	11·8	21·6
6. ♀.	27·3	41·0	5·0	10·7	18·3
7. ♀.	28·0	38·5	5·0	12·0	17·3
8. ♀.	26·5	39·0	5·3	11·3	19·1
9. ♀.	26·8	40·0	5·2	9·1	17·4

Nos. 4 and 8 are in the Brunswick Museum; Nos. 1 and 7 in the Museum Heineanum; No. 2 in the collection of Mr. Nehrkorn.

9. Alcedo ispidoides, Less., Salvad. i. p. 408.

"*Male*. Iris brown. L. 15·5 cm., D. 2 cm. Bill black, feet red-brown. Lokki, Ceram, 20 November 1881."

The specimen exactly agrees with the description of Salvadori, and

with another bird before me (female) which Dr. Platen has sent from Amboina (cf. Blasius and Nehrkorn, "Dr. Platen's ornithologische Sammlungen aus Amboina," Verh. zool.-bot. Ges. Wien, xxxii. 1882, p. 418, sp. 12): both are still young, as appears from the bluish borders of the red feathers of the breast. The Brunswick Museum possesses an evidently old specimen of the same species from Celebes, which has no blue borders to the feathers of the breast, but a more conspicuous red spot above the lores and a more bluish shade on the head.

The nearly related species *A. bengalensis*, Gm., of which the Brunswick Museum possesses a specimen (male) from the East Indies, purchased from Verreaux, has a more greenish tint on the back; the pretty large spot above the lores and a stripe which begins beneath the eyes and runs backwards are of a clear brown-red, of the same colour as the underside.

The specimen is in the Brunswick Museum.

10. Ceyx lepida, Temm., Salvad. i. p. 417.

"*Male.* Iris brown. L. 14 cm., D. 1·8 cm. Bill and feet coral-red. Lokki, Ceram, 22 November 1881."

The specimen is still young, as is evident by the smaller development of the blue spots on the head, and the paler colouring of the brownish spot on the lores, in comparison with four old birds of the same species now before me which Dr. Platen has sent from Amboina. (cf. Blasius and Nehrkorn, tom. cit. p. 418, sp. 13). The Brunswick Museum possesses one specimen of the same species from Batchian, which in its much darker and less conspicuous spots on the head, and its more intensely red-brown underside, coincides exactly with that variety of colouring which is described by Salvadori for the group of Halmahera.

The specimen is in the Brunswick Museum.

11. Cyanalcyon lazuli, Temm., Salvad. i. p. 461.

Three specimens (♂)—(1) "Nov. 18, 1881," (2) "Nov. 29, 1881," (3) "Nov. 30, 1881." For all the label repeats:—"*Male.* Iris brown. L. 20 cm., D. 4 cm. Bill and feet black. Lokki, Ceram."

The more ample material sent by Dr. Platen (besides the three males from Ceram, I have before me four males and two females from Amboina, with exact description of sex by the hand of the collector) gives me occasion to point out an evident mistake of Salvadori in the descriptions of male and female, into which he has certainly been led by the paucity of material before him. (He had only one specimen, evidently wrongly labelled "male," from Amboina in the Museum of Genoa, and another, probably equally wrongly marked "female," in the Museum of Turin.)

Already Schlegel mentions in the 'Mus. Pays-Bas' (Alcedines, p. 42), "Mâle, à poitrine blanche;" and in the 'Revue' (p. 31):—"Jeune femelle, poitrine blanche, comme dans les mâles, mais com-

mençant à prendre la teinte d'un bleu-vert du ventre." Salvadori, on the contrary, describes mistakenly:—

1. *Mas.* "Gutture albo; gastræo reliquo pallide cæruleo (♀?)."

2. *Fœm.* "Mari simillima, sed subtus alba, abdomine imo tantum cæruleo (♂?)."

3. *Mas. jun.* "Fœminæ similis, sed colore albo pectoris partim cæruleo tincto (♀ jun.?)."

I am of opinion that, judging from the seven males and two females of Dr. Platen's, the description of Salvadori for No. 1 would be that of a female, for 2 that of a male, and for 3 that of a young female as Schlegel describes it.

The three males from Ceram have the underparts in the rather larger front half white, and in the rather smaller hind part blue; in the middle line the blue colour of the belly has with the addition of the blue under tail-coverts a length of about 5·5 to 6·5 cm., while in the two females from Amboina before me the blue of the underparts, which extends up to the breast, has a length of 8 to 8·5 cm.

Dr. Platen's remarks about the sex, which are evidently correct, are so much the more valuable, as many specimens in different museums seem to be kept under a wrong statement of sex, like the two specimens in the Museum of Lubeck mentioned by Dr. Lenz (Cabau. J. f. Orn. 1877, p. 368), which are also, as I believe, wrongly labelled, as the just-named author communicates to me.

No. 2 is in the collection of Mr. Nehrkorn.

12. Sauropatis chloris (Bodd.), Salvad. i. p. 470.

Two specimens—1. "♂. Dec. 4, 1881;" 2. "♀. Nov. 21, 1881." For both, the labels say:—"Iris brown. L. 24 cm., D. 4·5 cm. Bill black; reddish-white spot on the under mandible; feet dark brown. Lokki, Ceram."

Both are young specimens, with a brownish-yellow shade on the underparts and the band of the neck, and with light brownish colouring of the light spots of the lores and on the tips of the forehead-feathers, and numerous little dark borders on the breast-feathers. The brownish colour and the black bordering of the breast-feathers are more conspicuous in the female (No. 2) than in the male (No. 1); for which reason the first (which, on account of the dirty-green upper part, bears a great resemblance to *Sauropatis sordida*, Gould) should be regarded as the youngest of the two specimens, notwithstanding the greater length (about a few millimetres) of the wings and bill. The Brunswick Museum possesses three specimens from Celebes, on the two old birds of which the white appears clear, while the third resembles the young male from Ceram. The supposition of Dr. Lenz (Cabau. J. f. O. 1877, p. 367) that *S. sancta* (Vig. & Horsf.) might only be the young bird of *S. chloris* (Bodd.), will hardly be confirmed (cf. Blasius and Nehrkorn, tom. cit. p. 431, sp. 16).

No. 2 is in the Brunswick Museum.

13. MONARCHA INORNATUS (Garn.), Salvad. ii. p. 14.

Two specimens (1. "♂," 2. "♀"). For both, the label repeats :— "Iris brown. L. 16 cm., D. 4 cm. Bill and feet of a beautiful bluish grey. Lokki, Ceram, Nov. 25, 1881."

This species is *new* to the ornithology of Ceram. I have before me for comparison one sample from the Brunswick Museum, received from Batchian, and three specimens sent at the same time by Dr. Platen from Amboina (cf. Blasius and Nehrkorn, tom. cit. p. 422, sp. 18). The specimens from Batchian and Ceram have a little lighter grey colouring on the head and breast than the three birds (all males) from Amboina; and the individuals just named show distinctly a small number of black feathers on the front and chin, which are scarcely to be remarked on the others. The female from Ceram has in the dried skin a nearly yellowish white bill, at least in the front half; while the five other specimens (all labelled male) show distinctly the bluish-grey or grey colouring nearly up to the end.

No. 1 is in the Brunswick Museum.

14. MUSCICAPA GRISEOSTICTA (Swinh.), Salvad. ii. p. 80.

"*Male.* Iris dark brown. L. 12 cm., D. 2 cm. Bill and feet dark brown. Lokki, Ceram, Nov. 29, 1881."

Salvadori has only mentioned *Muscicapa griseosticta* (Swinh.) and *Erythrosterna luteola* (Pallas) among the true Flycatchers of the fauna of the Moluccas, &c. As, on account of the greater size and the entirely different colouring of the present specimen, the last species seems totally out of the question, I have labelled this bird at once as *M. griseosticta*, a determination since confirmed by Mr. E. F. von Homeyer and Count Tommaso Salvadori.

It coincides in general very well with the descriptions of Swinhoe, Salvadori, and Sharpe (Cat. Birds Brit. Mus. iv. p. 120, 1879), except only that the colour of the tail and quills should not be represented as blackish but rather as dark brown, and the brown-grey plumage has in many places (principally on the nape, on the middle of the back, the tail-feathers and upper wing-coverts, and the shoulder-feathers) numerous fine white spots which are bordered with a dark-brown edging. Such spots are described as characteristic of the plumage of the young of various allied species of *Muscicapa*, especially of *Muscicapa sibirica*, Gm., to which species[1] the example from Ceram has a striking resemblance in the markings of the chin, throat, breast, and belly. I consider therefore, according to analogy with *M. sibirica*, the specimen sent by Dr. Platen from Ceram to be a young bird of *Muscicapa griseosticta* (Swinh.). I have nowhere found in the literature at my disposal (especially neither among Salvadori's publications nor in Sharpe's Cat. Birds Brit. Mus.) the description of the plumage of youth of this species. On that account the above remarks about the delicate little white drop-like spots as characteristic of youth may be of interest. That an identi-

[1] I use for comparison an old male specimen of *Muscicapa sibirica*, Gm., derived from the collection of my late father, and collected June 4, 1869, on the southern part of Lake Baikal, which is in the Brunswick Museum.

fication of these allied species, on account of the great resemblance in the markings between *M. griseosticta* and *M. sibirica*, which at first occurred to me, is unlikely, I conclude from the greater length of the bill of the first species in comparison with the last, at least from the comparison of the measurements taken on the specimens before me and those noted by Sharpe.

Mr. E. F. von Homeyer, too, has had the kindness to compare the specimen in question with his skins of *Muscicapa sibirica*, and states that *M. griseosticta* essentially differs from *M. sibirica* not only in the larger, more elongated bill, which is narrower at its base, but in its wings, which are longer by some millimetres. With this statement coincides (with the exception of those of Salvadori, especially with respect to the length of bill of *M. griseosticta*) the following table of measurements, in which I have reduced the English inches into centimetres:—

	Long. tot. cm.	Al. cm.	Caud. cm.	Culm. cm.	Tarsi. cm.
M. griseosticta (Sharpe)	13·5	8·3	5·3	1·27	1·27
,, (♂, Ceram, Platen)..	12·0	8·5	5·0	1·2	1·25
,, (Salvadori)	14·0	8·2	5·3	0·9	1·4
M. sibirica (Sharpe).....	12·5	8·0	5·6	1·02	1·27
,, (♂, Baikal, Mus. Brunsw.)	12·6	8·1	5·8	1.1	1·3

It is surprising that Salvadori, evidently by mistake, should give the length of bill of *M. griseosticta* as only 0·9 cm. (the culmen must be meant), shorter than even the least of those of the culmen of *M. sibirica*, while Sharpe has even placed the two species, on account of the different shape of the bills, in two different genera (*Muscicapa* and *Hemichelidon*).

Furthermore, it was particularly striking to me to find that the character which Schrenck and Radde, who both have observed great numbers of *M. sibirica* in Siberia together with the similarly coloured *M. latirostris*, Raffl. (*M. cinereo-alba*, Temm. & Schl.), have remarked as of greatest importance for *M. sibirica*, in contrast to the last-named species, viz. that the first (spurious) quill has about a line less of length than the upper wing-coverts, is found very clearly marked in the *M. griseosticta* from Ceram lying before me; while the species of the genus *Muscicapa* under which Sharpe has placed *M. griseosticta* (at least the European kinds *M. grisola*, *M. atricapilla*, *M. collaris*, and *M. parva*) which I have examined possess a first quill which is much broader and sometimes considerably longer than the upper wing-coverts.

I have nowhere found recorded any remarks showing how the first quill of the *M. griseosticta* ought to stand in this respect; and I owe to a kind communication of Mr. Henry Seebohm (who himself, however, does not possess a specimen of *M. griseosticta*) the statement that in this species generally the first quill is smaller than the upper wing-coverts. I am almost led to believe that on account of this similarity of the first wing-feather, *M. griseosticta* should be classified in the same genus with *M. sibirica* notwithstanding the different shape of the bill.

The specimen is in the Brunswick Museum.

15. Cyrtostomus zenobia (Less.), Salvad. ii. p. 262.

"*Female*. Iris brown. L. 10 cm., D. 1·5 cm. Bill and feet black. Lokki, Ceram, 17 Nov. 1881."

In the Brunswick Museum several specimens exist of the nearly allied species *C. frenatus* (S. Müll.) from Celebes, a very good species, which is distinguished by the yellow colour of the belly of the male. The females on the other hand are not to be distinguished. Salvadori explains by this conformity of the plumage of the female the mistakes with regard to the countries where the two species are found.

The underparts of the present specimen are not so vividly coloured as those of another female sent by Dr. Platen from Amboina (cf. Blasius and Nehrkorn, tom. cit. p. 425, sp. 23).

The specimen is in the Brunswick Museum.

16. Philemon subcorniculatus (Hombr. et Jacq.), Salvad. ii. p. 355.

Two specimens (1. "♂, 17 Nov. 1881"; 2. ♀, 16 Nov. 1881"). For both, the label repeats:—"Iris brown. L. 35 cm., D. 9 cm. Bill brown. Skin round eyes and feet yellow-brown. Lokki, Ceram."

No difference of sex is to be remarked. If Hombron and Jacquinot state the length of bill to be 11 cm., this must be a mistake in writing or printing. The bill of the specimens in question measures about 4·5 cm.; and Salvadori, who has examined the original specimen, states the length of bill in that to be 4·6 cm. The description of this species, which is very similar to *Ph. corniculatus*, but has a scarcely marked horn, coincides almost exactly with the specimens of Dr. Platen.

No. 1 is in the Brunswick Museum; No. 2 in the collection of Mr. Nehrkorn.

17. Corvus violaceus, Forster, Salvad. ii. p. 487.

"*Female*. Iris brown. L. 34 cm., D. 2 cm. Bill and feet black. Lokki, Ceram, 17 Nov. 1881."

The specimen, which nearly resembles in size our Jackdaw (*Corvus monedula*), agrees with the smallest of the measurements given by Salvadori, and is to be regarded on that account, as well as on account of the yet faint appearance of the metallic lustre on the feathers, as a young bird. The species belongs, in contrast to *C. validus* and *C. validissimus* (both represented in the Brunsw. Mus.), to the short-billed species of *Corvus* of the fauna of the Moluccas. On the specimen in question the bill is still decidedly shorter than in the figure given by Schlegel in the 'Bijdr. tot de Dierk.' in 1859.

The specimen is in the Brunswick Museum.

N.B. In the following species, which will be treated in the third, not yet published, volume of Salvadori's work, I follow the systematic arrangement given by Salvadori in the 'Uccelli di Borneo,' and accept the nomenclature of his 'Prodromus.' Besides I cite some of the principal recent monographic and ornithological papers.

18. Carpophaga neglecta, Schleg. Ned. Tijdschr. Dierk. iii. pp. 195, 344 (1865); Mus. Pays-Bas, *Columbæ*, p. 90; Salvad. Prodr. Orn. Papuas., Ann. Mus. Civ. Genova, ix. p. 201, sp. 46; Lenz, J. f. O. 1877, p. 377, sp. 58; Rosenberg, Malayisch. Arch. 1879, p. 323.

"*Female*. Iris brown. L. 42 cm., D. 9 cm. Bill blue-grey; feet and cere reddish violet. Lokki, Ceram, 26 Nov. 1881."

This species has been as yet observed only in the islands of Ceram, Amboina, and Boano[1]; it is a representative of the nearly related *C. perspicillata* (Temm.).

The specimen is in the Brunswick Museum.

19. Myristicivora melanura, G. R. Gray, Salvad. Prodr. Orn. Papuas., Ann. Mus. Civ. Genova, ix. p. 203, sp. 56; ibid. viii. p. 381, sp. 36.

M. bicolor (Scop.), Schlegel, Mus. Pays-Bas, *Columbæ*, p. 98; Lenz, J. f. O. 1877, p. 379, sp. 62; Rosenberg, Malayisch. Arch. 1879, p. 323.

Five specimens (three males and two females). For all, the label repeats:—"Iris brown. Bill and feet blue-grey. Lokki, Ceram."

1. "♂. L. 36 cm., D. 6 cm. 25 Nov. 1881. Cere blue-grey."
2. "♂. L. 37 cm., D. 6 cm. 25 Nov. 1881."
3. "♂. L. 37 cm., D. 6 cm. 16 Dec. 1881. Cere blue-grey."
4. "♀. L. 37 cm., D. 6 cm. 25 Nov. 1881."
5. "♀. L. 37 cm., D. 6 cm. 3 Dec. 1881."

I place this species under the name *melanura*, Gray, because Salvadori in his 'Prodromus,' too, separates this species and the nearly allied *M. spilorrhoa*, Gray, from *M. bicolor* (Scop.). Schlegel unites the three forms in the 'Mus. Pays-Bas' (*Columbæ*, p. 98) under the original name *M. bicolor*, and justifies this by the statement that the extent of the black and the white on the feathers of the tail, and the formation of the black spots on the lower tail-coverts and on the feathers of the lower abdomen are very variable, so that no species could be founded thereon. As I have only before me some specimens from Ceram, and one specimen (male) sent by Dr. Platen from Amboina (cf. Blasius and Nehrkorn, tom. cit. p. 429, sp. 32), which have all been regarded as *M. melanura* by Gray and Salvadori, I have not the possibility of comparison with the other forms. But it is certain that some of the specimens before me, in particular No. 2, shows so great an extension of the white on the tail-feathers that they do not conform to Gray's original diagnosis of *M. melanura*.

In No. 2 the white on the two external tail-feathers protrudes far beyond the shaft on the outer web, so that in some places only a dark stripe of about 1 mm. width is left; and at the tip the darker colouring extends only about 1 cm. down, and on the left side can be called only a "whitish grey." No. 3, on the contrary, has a decidedly black tail; the white of the inner web of

[1] A small island near Ceram.

the outer tail-feathers protrudes only for about 1·5 mm. on the outer web and does not reach the tip by 3 cm. This last black-tailed specimen possesses only twelve tail-feathers (if two feathers are absent on account of moulting, they are at any rate not the outer ones), while all the other specimens, as also the one from Amboina, have fourteen (or thirteen) tail-feathers.

The male (No. 1) and the two females from Ceram, as well as the male from Amboina, are very like each other with regard to the colouring of the tail, and stand nearly exactly intermediate between the white-tailed (No. 2) and the black-tailed specimen (No. 3). With regard to the black spots on the lower abdomen and under tail-coverts, the white-tailed male (No. 2) does not show them, while No. 1 has only a slight trace of them on the belly and distinct black apical spots on the tail-coverts. The spots are a little less distinct in the female (No. 5), but exist in both places; while the male (No. 3) has strongly marked spots only on the belly, and the female (No. 4) has them only on the tail-coverts. The male from Amboina is similar to No. 3.

I will only add that in the female (No. 5) among the incomplete tertiaries, the rest of which are white, *one* feather on the left side, standing in the midst of the white ones, appears exceptionally almost as blackish as the tertiaries of *M. luctuosa* generally are.

The last three specimens Nos. 3, 4, and 5 have been retained for the Brunswick Museum.

20. Megapodius forsteni, Temm., Schlegel, Mus. Pay-Bas, *Tinami* (1880), p. 70; Salvad. Prodr. Orn. Papuas., Ann. Mus. Civ. Genova, xviii. p. 7, sp. 5 (1882).

"*Male.* Iris dark brown. L. 34 cm., D. 1 cm. Bill horny brown. Skin round eyes black, feet dark brown. Lokki, Ceram, 29 Nov. 1881."

The specimen is exactly similar to a male of the same species sent by Dr. Platen from Amboina and at present before me (cf. Blasius and Nehrkorn, tom. cit. p. 430, sp. 35). *M. forsteni* differs from the nearly allied species *M. freycineti*, Quoy et Gaim., represented in the Brunswick Museum, in the somewhat different shade of colour of the plumage (which is on the whole uniformly brown), and in its somewhat smaller size.

The specimen is in the Brunswick Museum.

21. Butorides javanica (Horsf.), Salvadori, Prodr. Orn. Papuas., Ann. Mus. Civ. Genova, xviii. p. 334, sp. 61 (1882).

Ardea javanica, Horsf., Finsch, Neu-Guinea, p. 183; Rosenberg, Malayisch. Arch. 1879, p. 324.

"*Female.* Iris golden yellow. L. 40 cm., D. 1 cm. Bill black. Skin round eyes and feet yellowish. Lokki, Ceram, 19 Nov. 1881."

The specimen has uniform black-green lustrous feathers on the head, some of which form a long crest, and broad ferruginous edgings

to the upper wing-coverts. In the Brunswick Museum, one specimen without indication of sex from Celebes and one male from Halmahera are found, which have a similar plumage.

The specimen is in the Brunswick Museum.

Brunswick, Ducal Museum of Natural History,
October 1882.

3. Description of a new Species of Flycatcher of the Genus *Monarcha* (*Piezorhynchus*) from the Solomon Group. By E. P. Ramsay, F.L.S., C.M.Z.S., &c., Curator of the Australian Museum, Sydney.

[Received November 13, 1882.]

Monarcha (Piezorhynchus) browni, sp. nov.

All the upper surface, wings and tail, throat and chest glossy blue-black; the feathers of the throat elongate, lanceolate; the breast, axillaries, abdomen, and under tail-coverts white; the terminal fourth to third portion of the outer four tail-feathers white[1]. A triangular patch of white from near the angle of the mouth below the eye, widens and extends down the sides of the neck; a broad patch of white on the wings, extends over the median coverts and tips of some of the adjacent smaller coverts; the shoulders are black like the back; the primary quills and the inner webs of the secondaries are blackish brown; the under surface of the wings, the basal portion of the feathers of the hind neck and interscapular region are dark brown.

Bill bluish black, rictus black, legs lead-blue.

Total length 7 inches, wing 3·5 in., tail 3·2 in., tarsus 0·8 in., hind toe 0·4 in.; bill from the forehead 0·7 in., from nostril 0·45 in., from gape 0·75 in.

Hab. "Marrabo," Solomon Islands.

Remarks. This fine species is remarkable for the large patch of white on the neck, which commences just below the eye, tips a few of the lower ear-coverts with white, and expands out in a triangular form on the side of the neck, but does not reach the chest. The species comes near to *Piezorhynchus brodiei* (Ramsay), but is a larger bird and has a greater extent of black on the chest. It was obtained by some of the Rev. George Brown's collectors at "Marrabo," one of the Solomon Group.

1 The fifth feather on one side only has a spot of white on the inner web.